

Table E-13: Emission Factors for CH<sub>4</sub> and N<sub>2</sub>O for Highway Vehicles

<b>Vehicle Type/Control Technology</b>	<b>N<sub>2</sub>O (g/mi)</b>	<b>CH<sub>4</sub> (g/mi)</b>	<b>N<sub>2</sub>O (g/km)</b>	<b>CH<sub>4</sub> (g/km)</b>
<b>Gasoline Passenger Cars</b>				
Low Emission Vehicles	0.0283	0.0402	0.0176	0.025
EPA Tier 1 <sup>a</sup>	0.0463	0.0483	0.0288	0.030
EPA Tier 0 <sup>a</sup>	0.0816	0.0644	0.0507	0.040
Oxidation Catalyst	0.0518	0.1126	0.0322	0.070
Non-Catalyst	0.0166	0.1931	0.0103	0.120
Uncontrolled	0.0166	0.2173	0.0103	0.135
<b>Gasoline Light-Duty Trucks</b>				
Low Emission Vehicles	0.0354	0.0483	0.0220	0.030
EPA Tier 1 <sup>a</sup>	0.0581	0.0563	0.0361	0.035
EPA Tier 0 <sup>a</sup>	0.1022	0.1126	0.0635	0.070
Oxidation Catalyst	0.0649	0.1448	0.0403	0.090
Non-Catalyst	0.0208	0.2253	0.0129	0.140
Uncontrolled	0.0208	0.2173	0.0129	0.135
<b>Gasoline Heavy-Duty Vehicles</b>				
Low Emission Vehicles	0.1133	0.0708	0.0704	0.044
EPA Tier 1 <sup>a</sup>	0.1394	0.0966	0.0866	0.060
EPA Tier 0 <sup>a</sup>	0.1746	0.1207	0.1085	0.075
Oxidation Catalyst <sup>b</sup>	0.1109	0.1448	0.0689	0.090
Non-Catalyst Control	0.0354	0.2012	0.0220	0.125
Uncontrolled	0.0354	0.4345	0.0220	0.270
<b>Diesel Passenger Cars</b>				
Advanced	0.0161	0.0161	0.0100	0.010
Moderate	0.0161	0.0161	0.0100	0.010
Uncontrolled	0.0161	0.0161	0.0100	0.010
<b>Diesel Light-Duty Trucks</b>				
Advanced	0.0322	0.0161	0.0200	0.010
Moderate	0.0322	0.0161	0.0200	0.010
Uncontrolled	0.0322	0.0161	0.0200	0.010
<b>Diesel Heavy-Duty Vehicles</b>				
Advanced	0.0483	0.0644	0.0300	0.040
Moderate	0.0483	0.0805	0.0300	0.050
Uncontrolled	0.0483	0.0966	0.0300	0.060
<b>Motorcycles</b>				
Non-Catalyst Control	0.0071	0.2092	0.0044	0.130
Uncontrolled	0.0071	0.4184	0.0044	0.260

Sources: IPCC/UNEP/OECD/IEA (1997), EPA (1998)

<sup>a</sup> The categories “EPA Tier 0” and “EPA Tier 1” were substituted for the early three-way catalyst and advanced three-way catalyst categories, respectively, as defined in the Revised 1996 IPCC Guidelines. Detailed descriptions of emissions control technologies are provided at the end of this annex.

<sup>b</sup> The methane emission factor was assumed based on the oxidation catalyst value for gasoline light-duty trucks.